

Patrick Bayou Superfund Site **Moving Ahead**

Prepared for:

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Presented by

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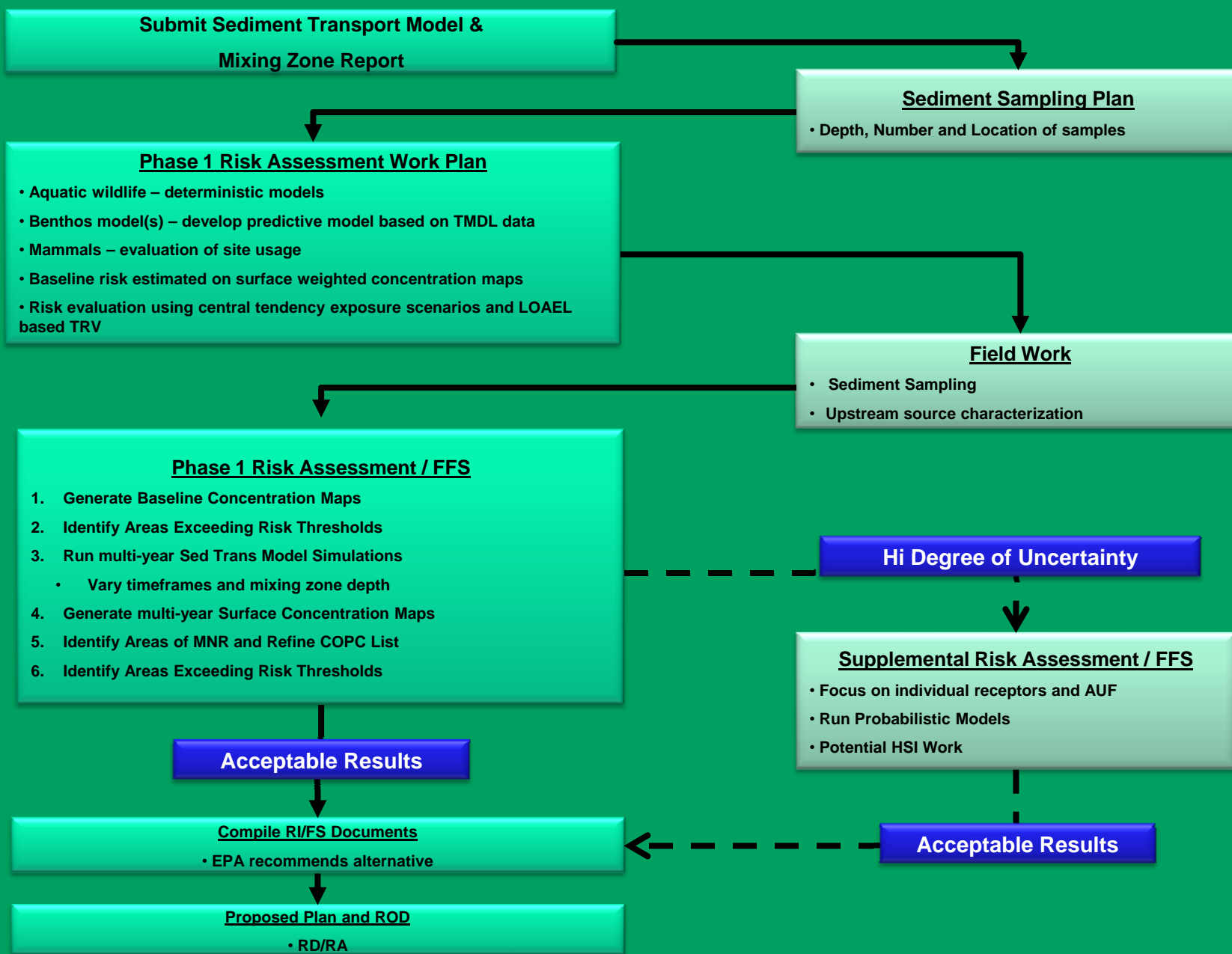
July 2009

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Today's Agenda

- Adaptive management and Patrick Bayou
- Key Risk evaluation factors
- Schedule
- Discussion and Action Items

Patrick Bayou Superfund – Adaptive Management Strategy



Key Risk Evaluation Factors

- Acute vs. chronic sediment toxicity data
- Mammals as a receptor
- Human health risk assessment
- MNR Evaluation
- Upstream source evaluation and control

Acute vs. chronic sediment toxicity data

■ Reviewed several scientific papers

- *McGee et al. 2004. A field test and comparison of acute and chronic sediment toxicity tests with the estuarine amphipod *Leptocheirus plumulosus* in Chesapeake Bay, USA. Env Tox & Chem. Vol 23, No. 7, pp 1751-1761*
- *Greenstein, et al. 2008. Comparison of methods for evaluating acute and chronic toxicity in marine sediments. Env. Tox. & Chem. Vol. 27, No. 4, pp 933-944.*
- *Stevens, et al. 2008. Performance of acute and chronic sediment toxicity methods. ERDC/EL TR-08-16. USACE ERDC.*
- Also compared chronic vs. acute toxicity data from the Calcasieu dataset (>100 test total)

■ Conclusions

- Classification of tests as acute or chronic does not reliably represent relative sensitivity
- In the majority of cases, acute test measures of survival were more sensitive than chronic test
- Lethal endpoints are generally more sensitive than sublethal endpoints
 - ◆ Some bias in measuring growth & reproduction of surviving organisms
- *Leptocheirus* acute tests with survival endpoint is a sensitive endpoint relative to other test organisms and endpoints

Mammals as a receptor

- Key receptor driving risk
- Appropriate evaluation required
- Suitability of the Site as habitat

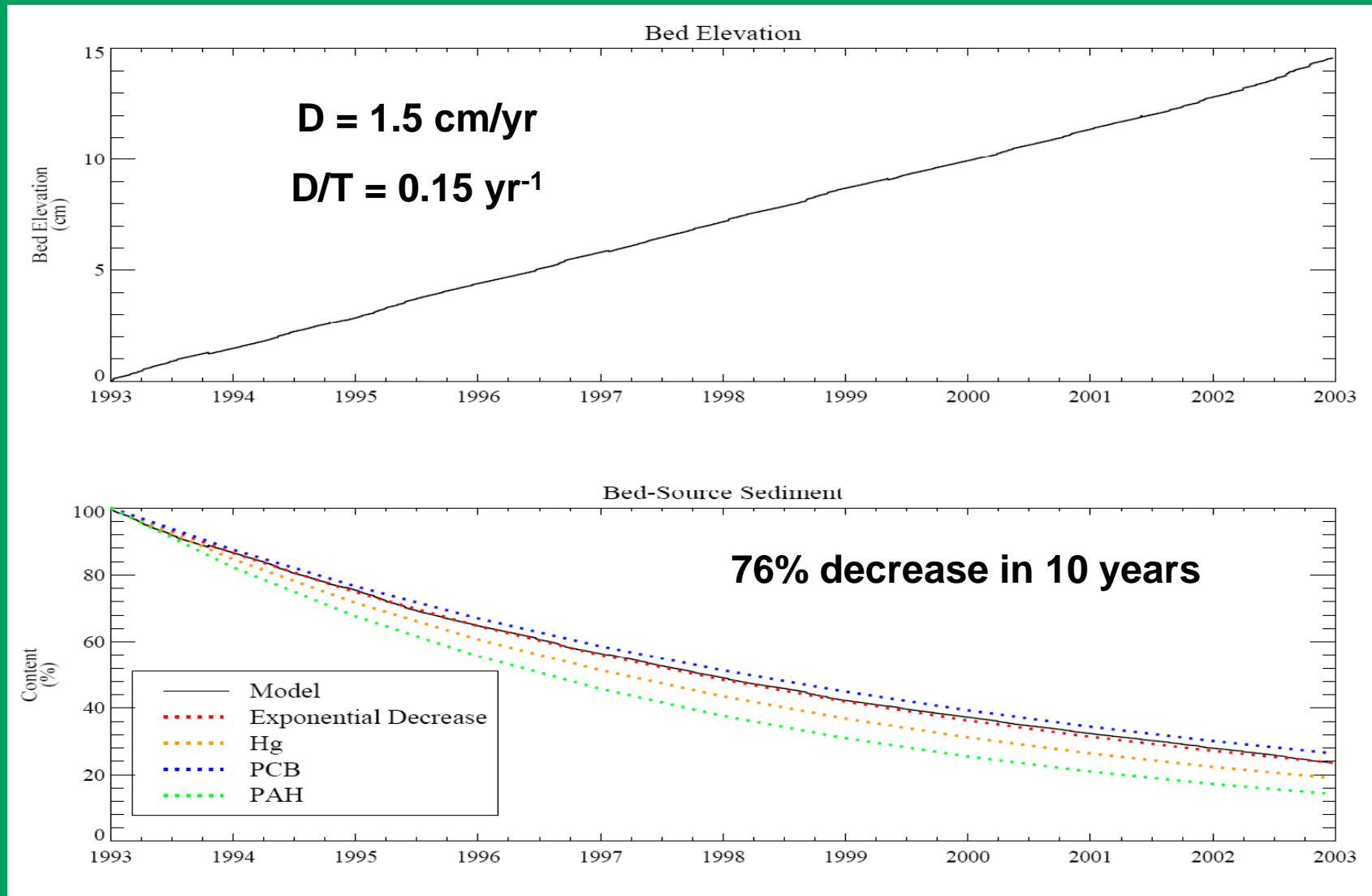
Human health risk assessment

- Controlled access to Site
- No on-site recreational fishing
- Potential for dermal exposure to on-site industrial worker
- Exposure to off-site recreational fishers will be addressed through remedial actions associated with ecological risk evaluation

MNR Evaluation

- Sediment Transport Model
- Propose to bracket several MNR timeframes
 - 5, 10, 15 years
 - Evaluate risk reduction vs. remedy costs/year
 - Impact of incoming COPC

Predicted Exponential Decay: Core PB048 Location



Upstream source evaluation

- Evaluation of past sampling for upstream sources potentially indicates significant and ongoing contribution from upstream sources
- Additional effort to evaluate upstream sources is planned
- Expected that off-site, anthropogenic non-point sources will impact the potential for overall site risk reduction
- Implications:
 - MNR timeframes increased
 - Long-term monitoring of remedy

Schedule

- Sediment Transport Model Report – June 4, 2009
- Mixing Zone Layer Study – June 15, 2009
 - Key factor for sampling depth
- Sediment and Surface Water Sampling
 - Draft Work Plan to EPA late-August 2009
 - Field efforts anticipated for Oct 2009
- Upstream Source Characterization Report & Draft Eco Risk Assessment Work Plan
 - Fall/Winter 2009

Summary

- JDG continues to move forward with EPA support
- Risk evaluation factors key to a focused and effective risk reduction effort for the Site

Thank You

The Patrick Bayou Joint Defense Group

